

09/696,866
Notice of Allowability

Application No.

09/696,866

Examiner

Lun-See Lao

Applicant(s)

SEVEN, KAZIM

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to AMENDMENT filed on 02-21-2006.
2. ☒ The allowed claim(s) is/are 1-4 and 6-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr Brett A Hertzberg on July 18, 2006.

3. The application has been amended as follows:

I. (Currently Amended) An apparatus for automatically determining a type of each load coupled to an amplified A channel signal and an amplified B channel signal and automatically configuring the amplification of the A and B channel signals to drive each determined load type, comprising:

a first configuration of amplifiers, comprising a first amplifier (A1) and a second amplifier (A2), are arranged to generate an amplified A channel signal between a first output of the first amplifier (OUTA1) and a second output of the second amplifier (OUTA2), wherein the first and second outputs (OUTA1, OUTA2) are adapted for driving a load of a first type coupled there between, and a third amplifier (B1) and a fourth amplifier (B2) are arranged to generate an amplified B channel signal between a third output of the third amplifier (OUTB1) and a fourth output of the fourth amplifier (OUTB2), wherein the third and fourth outputs (OUTA1, OUTB2) are adapted for driving another load of the first type coupled there between;

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a second configuration of the amplifiers comprising the first and second amplifiers (A1,A2) ~~are~~ arranged to generate the amplified A channel signal between the first and second outputs (OUTA1, OUTA2), wherein the first and second outputs (OUTA1, OUTA2) are adapted for driving a load of a second type coupled there between, wherein the first type is different from the second type, and the second amplifier (A2) and the third amplifier B1 are arranged to generate the amplified B channel signal between the second output (OUTA2) and the third output (OUTB1), wherein the second and third outputs (OUTA2, OUTB1) are adapted for driving another load of the second type coupled there between;

a control circuit that automatically determines the type of loads coupled to the amplified A and B channel signals and automatically employs the determined load type to select an arrangement of the amplifiers in one of the first configuration and the second configuration, wherein the selected arrangement of amplifiers provides an appropriate level for the amplified A and B channel signals to drive their respective loads; and

a switch (SWA3) that is arranged to: couple the first output of the first amplifier (OUTA1) to an input of the second amplifier (INA2) when in a closed position, and disconnect the first output of the first amplifier (OUTA1) from the input of the second amplifier (INA2) when in an open position, wherein the switch (SWA3) is selectively controlled by the control circuit such that the switch (SWA3) is closed when the selected arrangement of the amplifiers is the first configuration, and the switch (SWA3) is open when the selected arrangement is the second configuration.

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2. (Currently Amended) An apparatus as in Claim 1, further comprising a first mechanical switch that couples one of the first output (OUTA1) and the second output (OUTA2) ~~outputs~~ to the load of the first type when in a closed position, and disconnects ~~the-one of the first~~ output (OUTA1) and ~~the second outputs~~ output (OUTA2) from the load of the first type when in an open position, wherein the control circuit automatically determines the type of load to be of the first type when the first mechanical switch is detected as closed, and of the second type when the first mechanical switch is detected as open.
3. (Currently Amended) An apparatus as in Claim 1, further comprising a second mechanical switch that couples the third output (OUTB1) to an input of the control circuit when in a closed position, and disconnects the third output (OUTB1) from the input of the control circuit when in an open position, wherein the control circuit detects the type of load by detecting the disposition of the second mechanical switch as the open position or the closed position.
4. (Currently Amended) An apparatus as in Claim 1, wherein the fourth amplifier (B2) includes a tri-state input (TRI) that is coupled to the control circuit such that the fourth amplifier (B2) enabled when the selected arrangement of the amplifiers in the first configuration, and the fourth amplifier (B2) disabled when the selected arrangement is the second configuration.
5. (Cancelled)
6. (Currently Amended) An apparatus as in Claim 1, wherein the first amplifier (A1) and the second amplifier (A2) are configured as a bridge amplifier such that the

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first output (OUTA1) and second output (OUTA2) provide an A channel differential output, and the third amplifier (B1) and the fourth amplifier (B2) are configured as another bridge amplifier such that the third output (OUTB1) and the fourth output (OUTB2) provide a B channel differential output, when the selected arrangement is the first configuration.

7. (Currently Amended) An apparatus as in Claim 1, wherein the second output (OUTA2) of the second amplifier (A2) provides a virtual ground, the first output (OUTA1) of the first amplifier (A1) provides an A channel output, and the third output (OUTB1) of the third amplifier (A3) provides a B channel output, when the selected arrangement is the second configuration.

9. (Currently Amended) An apparatus as in Claim 1, wherein each of the first amplifier (A1), the second amplifier (A2), and the third amplifier (B1) ~~amplifiers~~ include a controllable current limited output that is enabled in the selected arrangement is the second configuration.

10. (Currently Amended) An apparatus as in Claim 9, wherein each of the controllable current limited outputs of the first amplifier (A1), the second amplifier (A2), and third amplifier (B1) ~~amplifiers~~ includes an output transistor that generates an output current in response to a drive signal, and a controlled clamp that is arranged to clamp the drive signal when the selected arrangement is the second configuration.

11. (Currently Amended) An apparatus as in Claim 1, wherein the control circuit further comprises a short circuit detector, the short circuit detector determines that a

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short circuit condition exists when the second output is maintained below the reference voltage for a predetermined time interval, and the control circuit disables the second amplifier (A2) when the short circuit condition exists.

4. Claims 1-4, 6-7 and 9-11 have been amended and Claims 5 and 12-28 have been canceled.

Allowable Subject Matter

5. Claims 1-4 and 6-11 are allowed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner


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should be directed to Lao,Lun-See whose telephone number is (571) 272-7501 The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See L.S.
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 06-18-2006


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600